REMARKS

Claims 1-15 are pending in the above-identified application. Claims 1, 3, 4, 7, 9 and 13-15 are amended. No claims are canceled or added.

The drawings stand objected to as failing to comply with 37 C.F.R. § 1.84(p)(5). It is preferred that Fig. 1 have a reference sign "23" with a leader line pointing to the contact section. As discussed above and shown below, applicants amend Fig. 1 via the present submission to have such notation. Accordingly, withdrawal of the drawing objection is now solicited.

The disclosure stands objected to due to informalities, as explained in the Office Action on page 2. As shown above, applicants amend the disclosure appropriately. Accordingly, withdrawal of the objection to the disclosure is now solicited.

Claim 14 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The Office Action elaborates that it is unclear whether the claim describes an electrical unit implementing a single "screw" or multiple "screws."

Although it was assumed for purposes of the Office Action that multiple screws were intended, applicants instead amend the claim for broader coverage as shown above to specify a single screw. Withdrawal of the indefiniteness rejection is now solicited.

Claims 1-5, 7-11, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as obvious over Bradney et al. (U.S. Pat. No. 6,208,264) in view of Setlak et al. (U.S. Pat. No. 5,940,526). Applicants respectfully traverse this rejection.

The applied prior art discloses two types of fingerprint recognizing apparatuses: (1) those using optical fingerprint sensors; and (2) those using electric field fingerprint sensors. The two types differ significantly, as detailed below.

Bradney et al. discloses a fingerprint recognizing apparatus that uses an optical fingerprint sensor. A card key 32 receives a thumbprint on a scan window 56 and has data stored in an optical memory 66. An optical train 70 optically reads the thumbprint and data from card key 32. For conducting the optical reading, the optical train 70 uses a laser 72, a beam splitter 74, and two scan mirrors 76, 77. The optical data memory stores fingerprint identification information in a format that may be scanned by lasers, such as those used for high-density CD ROM's. (See Figs. 4 and 5 and column 6, lines 5-30.) Fig. 5a shows a variation of the card key of Fig. 5. The card key in Fig. 5 has a sliding cover (labeled "48" in Figs. 3 and 4), and the card key in Fig. 5a has a flip-top cover 86.

For the Bradney et al. fingerprint recognizing apparatus to authenticate a fingerprint, the card key is received by a port 34 of a terminal 12. (See Fig. 2.) The optical train 70 is driven toward the card key, the memory element 66 is scanned, and the thumbprint is scanned twice. As the thumbprint is scanned the second time, the optical train 70 is withdrawn from the card key. (Column 6, lines 31 et seq.)

In contrast, Setlak et al. discloses a fingerprint recognizing apparatus that uses an electric field fingerprint sensor. Sensor 30 includes an array of individual pixels or sensing elements 30a. (Fig. 3.) A finger 79 contacts dielectric 52 and electrodes 53 and 54. (Fig. 2 and column 4, lines 48-56.) Finger 79 is driven with a signal due to its contact with electrode 54. (Column 5, lines 13-17.) Sensing elements 30a of sensor 30 detect the positions of the finger's ridges and valleys due to the differences in emitted electric field caused by the driving signal from electrode 54. (Figs. 2 and 3 and the corresponding text in the specification. See also column 4, lines 60-65.)

Setlak et al. distinguishes its electric field fingerprint sensor from an optical fingerprint sensor, noting that the electric field fingerprint sensor may be more reliable because the

impedances of the skin's ridges and valleys are much more difficult to simulate than a fingerprint's image, which is what an optical fingerprint sensor reads. (Column 4, line 66, through column 5, line 6.)

Independent claim 1 describes a fingerprint recognizing apparatus that includes:

> a contact section arranged on the apparatus body at a position where the operator's finger can easily come into contact therewith during an operator's action to open the cover, the contact section being electrically connected to the ground of the apparatus body [emphasis added].

Independent claim 7 describes an electrical unit including a fingerprint recognizing apparatus that also has a contact section electrically connected to ground. Dependent claims 2-5, 8-11, 13, and 14 each depend from one of claims 1 and 7, so they too describe an apparatus or unit that has a contact section electrically connected to ground.

Applicants respectfully disagree with the justification provided in the Office Action that Bradney et al. and Setlak et al. render such a fingerprint recognizing apparatus or electrical unit obvious.

The rejection relies on Bradney et al. to disclose a fingerprint recognizing apparatus that has a "contact section." Specifically, thin membrane 58 (covering scan window 56) is regarded as a "contact section." (Office Action, page 3, bottom.) Membrane 58 is thin and conforms to a thumbprint pressed against it, so the reflective surface on the underside of membrane 58 produces a readable thumbprint image. (Column 5, lines 60-66.)

Bradney et al.'s membrane 58 is not electrically connected to ground as is the claimed "contact section," and this absence of a ground connection is acknowledged in the Office Action. The rejection relies instead on Setlak et al. to suggest modifying the Bradney et al. fingerprint recognizing apparatus to have a "contact section" as claimed. However, the Office Action does

not clearly indicate which elements of the Bradney et al. fingerprint recognizing apparatus would be removed and which elements of the Setlak et al. apparatus would be added.

The Office Action cites portions of the Setlak et al. disclosure that discuss electrostatic discharge protection (ESD). Specifically, a charge bleed resistor 104 is connected ground and to electrode 53. (Resistor 104 is labeled in Fig. 4.) When finger 79 contacts electrode 53, the finger's charge can pass through resistor 104 to ground. (Column 6, lines 32-38.) The text in column 6, lines 58-58, explains that this configuration allows removal of charge on the finger before powering the active circuit portions, which causes power savings that lead to cost savings. Also, the text in column 2, lines 40-43, explains that some conventional sensors were susceptible to damage from ESD.

However, the quoted Setlak et al. statement does not say that ESD was a problem for optical fingerprint sensors. The Bradney et al. apparatus uses an optical fingerprint sensor, instead of an electric field fingerprint sensor as used in Setlak et al.[1] The Office Action provides no explanation of why the Bradney et al. apparatus is supposedly susceptible to ESD damage. Moreover, applicants find no suggestion in their own review of Bradney et al. and Setlak et al. that the Bradney et al. apparatus would be susceptible to ESD damage. Thus, the Office Action has not provided a proper motivation to modify the Bradney et al. apparatus to have every element recited in the claims. Accordingly, the obviousness rejection is unjustified and should be withdrawn.

Applicants also disclose an additional feature not taught or suggested by either Bradney et al. or Setlak et al.: as is clear from applicants' specification, contact section 23 is a separate element from cover section 30. To emphasize more clearly this distinction of applicants'

[1] Applicants summarize above the differences between an optical fingerprint sensor and an electric field fingerprint sensor. Accordingly, applicants respectfully disagree that the two fingerprint sensors are "electrically similar," as the asserted in the Office Action on page 4 in paragraph 10 and on page 7 in paragraph 14.

invention from the applied prior art, applicants amend claims 1 and 7 as shown above to specify that the contact section and the cover are separate. Because claims 2, 8, and 14 each depend from one of claims 1 or 7, claims 2, 8, and 14 incorporate this amendment by reference.

As explained beginning in the next paragraph, this amendment is not necessary for claims 3-5, 9-11, and 13 to distinguish applicants' invention from the applied references. Because claims 3, 4, 9, and 13 are dependent claims, they are rewritten in independent form. Claims 5, 10, and 11 are also dependent claims, but they depend from one of claims 3, 4, 9, and 13, so they do need to be rewritten in independent form.

Claims 3-5, 9-11, and 13 are not amended as are claims 1 and 7 because they feature another aspect of the invention. Specifically, that the fingerprint recognizing apparatus or electrical unit of claims 3-5, 9-11, and 13 includes one or both of the following: (1) the contact section being arranged in a recess on the apparatus body or unit casing near the free end of the cover when it is in the closed position; and (2) the free end of the cover being gently curved in such a manner that a central portion is protruded outwardly more than respective side portions. Although Setlak et al. discloses in Fig. 4 the general concept of a fingerprint sensor cover 53' that provides a current path from a finger to a ground, applicants find no teaching or suggestion in Setlak et al. of a recess in an apparatus body or unit casing or a curvature of cover 53' as claimed. Accordingly, Setlak et al. cannot anticipate or render obvious claims 3-5, 9-11, and 13.

Applicants of course acknowledge that the rejection relies also on Bradney et al. However, as explained above, the teachings from both Bradney et al. and Setlak et al. are not properly combinable, because they reference two significantly different types of fingerprint sensors, and furthermore because there is no showing that the Bradney et al. fingerprint sensor

would need the ESD protection disclosed by Setlak et al. Therefore, it would not have been obvious to modify the Bradney et al. fingerprint sensor as described in the Office Action.

In view of the explanation above, applicants now solicit the withdrawal of the obviousness rejection of claims 1-5, 7-11, 13, and 14.

Claims 6 and 12 stand rejected under 35 U.S.C. § 103(a) as obvious over Bradney et al. in view of Setlak et al., and further in view of Gainey (U.S. Pat. No. 6,382,416). Applicants respectfully submit that the rejection should be withdrawn.

The rejection of claims 6 and 12 is based in part on the rejection of parent claims 1 and 7, respectively, as obvious over Bradney et al. in view of Setlak et al. However, as discussed above, this prior art does not properly render claims 1 and 7 obvious. Accordingly, the rejection of dependent claims 6 and 12 is not justified.

Applicants of course acknowledge that the rejection of claims 6 and 12 relies additionally on Gainey. However, Gainey is not relied upon to justify the rejection of parent claims 1 and 7.

In view of this explanation, applicants now solicit the withdrawal of the obviousness rejection of claims 6 and 12.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as obvious over Holehan (U.S. Pat. No. 6,337,918) in view of Setlak et al. Applicants respectfully traverse this rejection.

Holehan discloses a personal computer with a touchpad 16. (Fig. 1.) The touchpad obtains information for fingerprint analysis. (Column 4, lines 32-40.) Specifically, touchpad 16 includes an infrared source/detector 19 that includes a plurality of infrared sources 20 and an infrared detector 24. (Column 3, lines 31-33.) That is, Holehan discloses an information processing unit that uses an optical fingerprint sensor.

The rejection relies on Holehan to teach an information processing unit as claimed, with parts of touchpad 16 to teach the claimed "contact section," except that, as acknowledged in the Office Action, Holehan does not teach a "contact section" electrically connected to ground as claimed. The rejection relies instead on Setlak et al. to suggest modifying the Holehan information processing unit to have a contact section electrically connected to ground.

However, the Office Action does not provide any motivation to connect the "contact section" of Holehan's touchpad 16 to ground as claimed. Holehan's touchpad 16 uses an optical fingerprint sensor, and the Office Action does not explain why ESD was supposedly a problem for optical fingerprint sensors. As explained above, Setlak et al. discusses the ESD protection for electric field fingerprint sensors only.

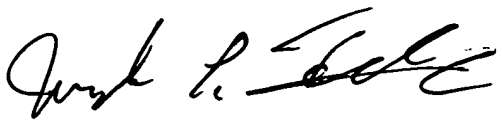
Also, as with claims 1 and 7 discussed above, claim 15 is now amended to specify that the contact section and the cover are separate. Such a configuration is not taught or suggested by the applied prior art.

Accordingly, applicants now solicit the withdrawal of the obviousness rejection of claim 15.

In view of the remarks above, applicants now submit that the application is in condition for allowance. Accordingly, a Notice of Allowability is hereby requested. If for any reason it is believed that this application is not now in condition for allowance, the Examiner is invited to contact applicants' undersigned attorney at the telephone number indicated below to arrange for disposition of this case.

In the event that this paper is not timely filed, applicants petition for an appropriate extension of time. The fees for such an extension, or any other fees which may be due, may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Joseph L. Felber
Attorney for Applicants
Reg. No. 48,109

Atty. Docket No. **010363**

1250 Connecticut Avenue, N.W., Suite 700
Washington, DC 20036
Tel: (202) 822-1100
Fax: (202) 822-1111

Enclosures: Replacement Drawing
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